

MULTIMEDIA



UNIVERSITY

STUDENT ID NO

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MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 3, 2017/2018

TCS2251 – COMPUTER SECURITY
(All Sections / Groups)

5 JUNE 2018
2.30 P.M. – 4.30 P.M.
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This Question paper consists of 4 pages (including cover page) with 6 Questions only.
2. Attempt **ALL** questions. The distribution of the marks for each question is given. This paper carries **60 marks**.
3. Please print all your answers in the Answer Booklet provided.

Question 1 (10 Marks)

- a) Briefly list and describe the FIVE (5) defense mechanisms which can be used to control threats to vulnerabilities in a computer system. [5 marks]

- b) List the TWO (2) most elementary requirements to protect memory in a multi-programmed operating system. [2 marks]

- c) Name THREE (3) advantages of segmentation used for protection of computer memory. [3 marks]

[TOTAL = 5 + 2 + 3 = 10]

Question 2 (10 Marks)

- a) Briefly describe and illustrate with a diagram the mechanism of File Effector malware attacks. [5 marks]

- b) Give TWO (2) examples of how the normal password authentication process can be protected from unauthorized attempts. [2 marks]

- c) Predict how an attacker can get hold of a password which is stored in plaintext in a two-column table in a database or a text file. [3 marks]

[TOTAL = 5 + 2 + 3 = 10]

Question 3 (10 Marks)

a) Encrypt the following phrase using the 5-column transposition cipher.

“THERE IS A TIME FOR EVERYTHING”

In your answer, show how you did your encryption. [6 marks]

b) Illustrate with a diagram how the Key Distribution Centre (KDC) allows Bob and Alice to determine a shared symmetric secret key to communicate with each other. [4 marks]

[TOTAL = 6 + 4 = 10]

Question 4 (10 Marks)

a) List and explain FOUR (4) ways to protect against inference attacks.

[4 marks]

b) List FOUR (4) common threats in network and give an example for each of the listed threats. [4 marks]

c) Give TWO (2) reasons for the need of digital certificate revocation.

[2 marks]

[TOTAL = 4 + 4 + 2 = 10]

Question 5 (10 Marks)

- a) Compare and contrast Secure Shell and Secure Socket Layer. [4 marks]
- b) Compare and contrast Firewall and Intrusion Detection System. [4 marks]
- c) Do you think Firewall offers better security protection than Intrusion Detection System? Justify your answer. [2 marks]

[TOTAL = $4 + 4 + 2 = 10$]

Question 6 (10 Marks)

- a) List THREE (3) purposes of risk analysis in a security plan? [3 marks]
- b) List and explain THREE (3) ways to respond to a risk. [3 marks]
- c) Compare and contrast Copyright and Patent. [4 marks]

[TOTAL = $3 + 3 + 4 = 10$]

END OF EXAM PAPER